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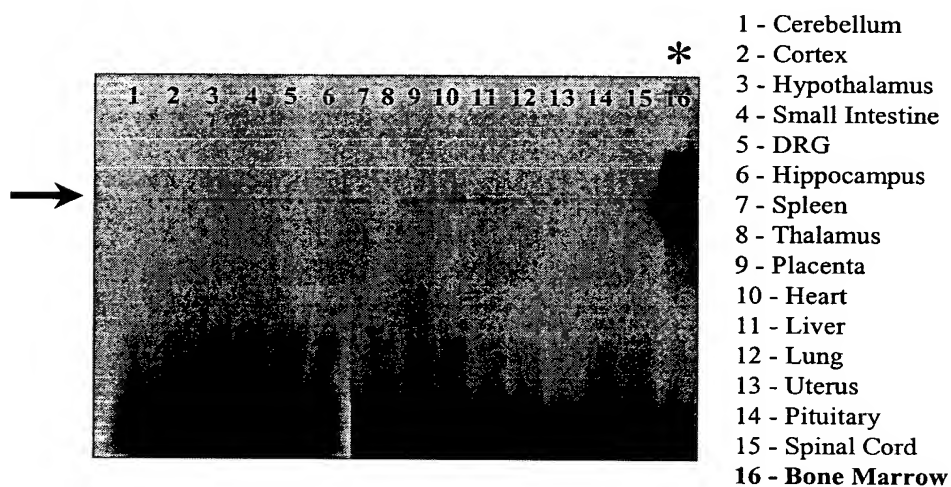
**Figure 1: Nucleic Acid coding sequence human histamine H4**

ATGCCAGATACTAATAGCACAAATCAATTTATCACTAAGCACTCGTGTTACTTTAGCATTT  
TTTATGTCCTTAGTAGCTTTTGCTATAATGCTAGGAAATGCTTTGGTCATTTTAGCTTTTG  
TGGTGGACAAAAACCTTAGACATCGAAGTAGTTATTTTTTCTTAACCTGGCCATCTCTG  
ACTTCTTTGTGGGTGTGATCTCCATTCCTTTGTACATCCCTCACACGCTGTTCTGAATGGG  
ATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTACTGACTATCTGTTATGTACAGCAT  
CTGTATATAACATTGTCCTCATCAGCTATGATCGATACCTGTCAGTCTCAAATGCTGTGT  
CTTATAGAACTCAACATACTGGGGTCTTGAAGATTGTTACTCTGATGGTGGCCGTTTGG  
GTGCTGGCCTTCTTAGTGAATGGGCCAATGATTCTAGTTTCAGAGTCTTGGAAGGATGA  
AGGTAGTGAATGTGAACCTGGATTTTTTTCGGAATGGTACATCCTTGCCATCACATCATT  
CTTGGAATTCGTGATCCCAGTCATCTTAGTCGCTTATTTCAACATGAATATTTATTGGAG  
CCTGTGGAAGCGTGATCATCTCAGTAGGTGCCAAAGCCATCCTGGACTGACTGCTGTCT  
CTTCCAACATCTGTGGACACTCATTCAGAGGTAGACTATCTTCAAGGAGATCTCTTTCTG  
CATCGACAGAAGTTCCTGCATCCTTTCATTTCAGAGAGACAGAGGAGAAAAGAGTAGTCTC  
ATGTTTTCTCAAGAACCAAGATGAATAGCAATACAATTGCTTCCAAAATGGGTTCCTT  
CTCCCAATCAGATTCTGTAGCTCTTCACCAAAGGGAACATGTTGAACTGCTTAGAGCCA  
GGAGATTAGCCAAGTCACTGGCCATTCTCTTAGGGGTTTTTGCTGTTTGCTGGGCTCCAT  
ATTCTCTGTTCACAATTGTCCTTTCATTTTATTCCTCAGCAACAGGTCCTAAATCAGTTTG  
GTATAGAATTGCATTTTGGCTTCAGTGGTTCAATTCCTTTGTCAATCCTCTTTGTATCCA  
TTGTGTCACAAGCGCTTTCAAAAGGCTTCTTGAAAATATTTTGTATAAAAAAGCAACC  
TCTACCATCACAACACAGTCGGTCAGTATCTTCTTAA

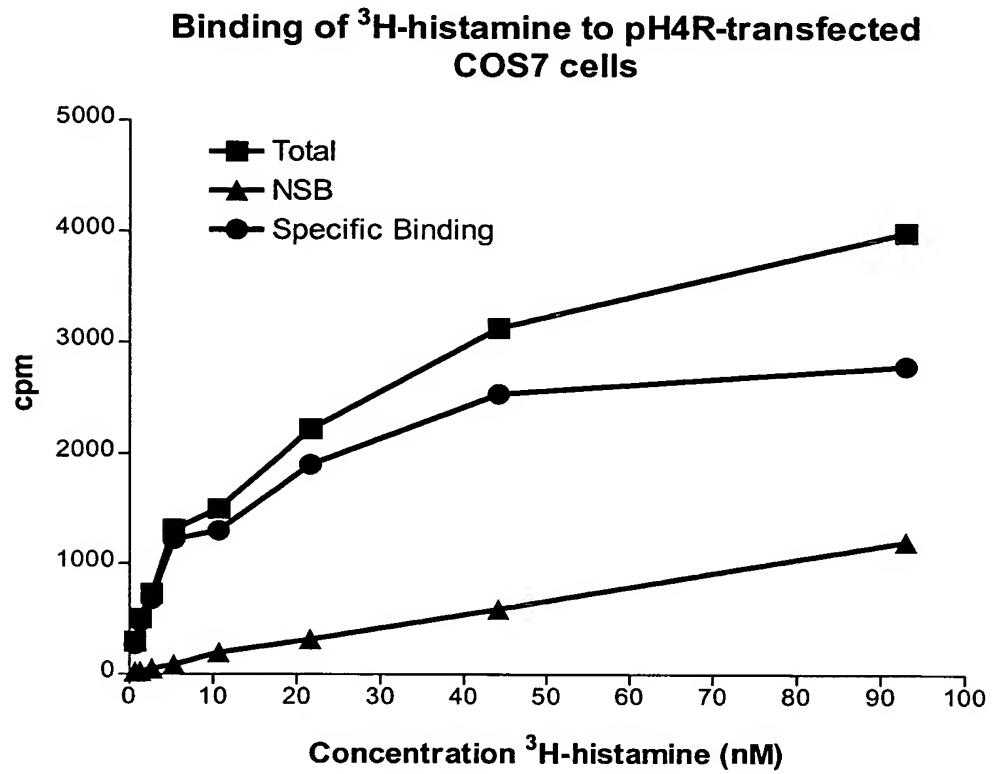
**Figure 2: Amino acid sequence human histamine H4 receptor**

Met Pro Asp Thr Asn Ser Thr Ile Asn Leu Ser Leu Ser Thr Arg Val Thr Leu  
Ala Phe Phe Met Ser Leu Val Ala Phe Ala Ile Met Leu Gly Asn Ala Leu Val  
Ile Leu Ala Phe Val Val Asp Lys Asn Leu Arg His Arg Ser Ser Tyr Phe Phe  
Leu Asn Leu Ala Ile Ser Asp Phe Phe Val Gly Val Ile Ser Ile Pro Leu Tyr  
Ile Pro His Thr Leu Phe Glu Trp Asp Phe Gly Lys Glu Ile Cys Val Phe Trp  
Leu Thr Thr Asp Tyr Leu Leu Cys Thr Ala Ser Val Tyr Asn Ile Val Leu Ile  
Ser Tyr Asp Arg Tyr Leu Ser Val Ser Asn Ala Val Ser Tyr Arg ThrGln His  
Thr Gly Val Leu Lys Ile Val Thr Leu Met Val Ala Val Trp Val Leu Ala Phe  
Leu Val Asn Gly Pro Met Ile Leu Val Ser Glu Ser Trp Lys Asp Glu Gly Ser  
Glu Cys Glu Pro Gly Phe Phe Ser Glu Trp Tyr Ile Leu Ala Ile Thr Ser Phe  
Leu Glu Phe Val Ile Pro Val Ile Leu Val Ala Tyr Phe Asn Met Asn Ile Tyr  
Trp Ser Leu Trp Lys Arg Asp His Leu Ser Arg Cys Gln Ser His Pro Gly Leu  
Thr Ala Val Ser Ser Asn Ile Cys Gly His Ser Phe Arg Gly Arg Leu Ser Ser  
Arg Arg Ser Leu Ser Ala Ser Thr Glu Val Pro Ala Ser Phe His Ser Glu Arg  
Gln Arg Arg Lys Ser Ser Leu Met Phe Ser Ser Arg Thr Lys Met Asn Ser Asn  
Thr Ile Ala Ser Lys Met Gly Ser Phe Ser Gln Ser Asp Ser Val Ala Leu His  
Gln Arg Glu His Val Glu Leu Leu Arg Ala Arg Arg Leu Ala Lys Ser Leu Ala  
Ile Leu Leu Gly Val Phe Ala Val Cys Trp Ala Pro Tyr Ser Leu Phe Thr Ile  
Val Leu Ser Phe Tyr Ser Ser Ala Thr Gly Pro Lys Ser Val Trp Tyr Arg Ile  
Ala Phe Trp Leu Gln Trp Phe Asn Ser Phe Val Asn Pro Leu Leu Tyr Pro Leu  
Cys His Lys Arg Phe Gln Lys Ala Phe Leu Lys Ile Phe Cys Ile Lys Lys Gln  
Pro Leu Pro Ser Gln His Ser Arg Ser Val Ser Ser

**Figure 3: Tissue Distribution of human histamine H4 receptor**



**Figure 4: Binding of [<sup>3</sup>H]-histamine to pH4R expressing COS7 cells.**



## FIGURE 5A

### Mouse H4 DNA coding region (SEQ.ID.NO.:5)

ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACCAGCTGCTCAGGTCCCCTTGGCATTTTTAATGT  
CTTCATTTGCCTTTGCTATAATGGTAGGCAATGCTGTGGTCATCTTAGCCTTTGTGGTGGACAGAAA  
CCTTAGACATCGAAGTAATTATTTTTTCTTAATTTGGCTATTTCTGACTTCCTCGTGGGTTTGATT  
TCCATTCTCTGTACATCCCTCACGTGTGTTAACTGGAATTTTGAAGTGGAACTGTCATGTTTT  
GGCTCATTACTGACTATCTTTTGTGCACCGCATCTGTCTACAATATTGTCCTATTAGCTACGATCG  
ATACCAGTCAGTTTCAAATGCTGTGTCTTATAGGGCTCAACACACTGGCATCATGAAGATTGTTGCT  
CAAATGGTGGCTGTTTGGATACTGGCTTTCTTGGTAAATGGCCCGATGATTCTGGCTTCAGATTCTT  
GGAAGAACAGCACGAACACAAAGGACTGTGAGCCTGGCTTTGTTACAGAGTGGTACATCCTCACCAT  
TACAATGCTCTTGAATTCCCTGCTTCCTGTCATCTCTGTGGCTTATTTCAATGTACAGATTTACTGG  
AGCCTGTGGAAGCGTAGGGCTCTCAGTAGGTGCCCTAGCCATGCTGGATTCTCCACTACCTCTTCCA  
GTGCTTCAGGACACTTACACAGAGCTGGGGTGGCTTGCAGGACAAGTAATCCTGGATTGAAGGAATC  
AGCTGCATCTCGTCACTCAGAAAGTCCTCGAAGAAAGAGCAGCATCCTGGTGTCTTAAGGACTCAC  
ATGAACAGCAGTATCACTGCCTTCAAAGTGGGTTCCTTCTGGCGATCGGAAAGTGCAGCGCTTCGCC  
AAAGGGAGTACGCAGAGCTTCTCAGAGGCAGGAAGCTAGCCAGGTCACTGGCCATCCTTCTGAGCGC  
TTTTGCCATTTGCTGGGCTCCATACTGTCTGTTTACAATTGTCTTTCACTTACCCAGAACGGAA  
CGCCCCAAATCGGTGTGGTACAGCATTGCCTTCTGGCTGCAATGGTTCAATTCGTTTGTTAATCCCT  
TTCTGTACCCTTTGTGTACAGGCGTTTCCAGAAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCA  
ACCAGCGCTGTCACAGAACCAGTCAGTATCTTCTTGA

**FIGURE 5B**

**Rat H4 DNA coding region (SEQ.ID.NO.:6)**

ATGTCGGAGTCTAACGGCACTGACGTCTTGCCACTGACTGCTCAAGTCCCCTTGGCATTTTTAAATGT  
CCCTGCTTGCTTTTGCTATAACGATAGGCAATGCTGTGGTCATTTTAGCCTTTGTAGCAGACAGAAA  
CCTTAGACATCGAAGTAATTATTTTTTTCTTAATTTGGCTATTTCTGACTTCTTCGTGGGTGTCATC  
TCCATTCTCTGTACATCCCTCACACGCTGTTAACTGGAATTTTGAAGTGGAATCTGCATGTTTT  
GGCTCATTACTGACTATCTTTTGTGCACAGCATCCGTCTACAGTATTGTCCCTATTAGCTACGATCG  
ATACCAGTCAGTTTCAAACGCTGTGCGTTATAGAGCACAGCACACTGGCATCCTGAAAATTGTTGCT  
CAAATGGTGGCTGTTTGGATACTGGCTTTCTTGGTCAATGGCCCAATGATTCTGGCTTCGGATTCTT  
GGAAGAACAGCACCAACACAGAGGAGTGCGAGCCTGGCTTTGTTACTGAGTGGTACATCCTCGCCAT  
TACAGCATTCTTGAATTCCCTGCTCCCTGTCTCCTTGGTGGTCTATTTTCAAGTGTACAGATTTACTGG  
AGCCTGTGGAAGCGTGGGAGTCTCAGTAGGTGCCCTAGCCACGCTGGATTTCATCGCTACCTCTTCCA  
GGGGCACTGGACACTCACGCAGAACTGGGTGGCTTGTAGGACAAGTCTTCTTGATTAAAGGAACC  
AGCCGCATCCCTTCATTCAGAAAGTCCACGAGGAAAGAGCAGTCTCCTGGTGTCTTAAGGACTCAC  
ATGAGCGGTAGTATCATCGCCTTCAAAGTGGGTTCCTTCTGCCGATCAGAAAGCCCAGTGCTTCACC  
AGAGAGAGCACGTGGAGCTTCTCAGAGGCAGGAAGCTAGCCAGGTCGCTAGCTGTCTCCTGAGTGC  
TTTTGCCATTTGCTGGGCTCCGTATTGCCTGTTTCAAAATTGTTCTTTCAACTTATCGCAGAGGGGAG  
CGCCCCAAATCGATTTGGTACAGCATAGCCTTTTGGCTACAGTGGTTCAATTCACCTATTAATCCCT  
TTCTATACCCTTTGTGCCACAGACGTTTCCAGAAGGCTTTCTGGAAGATACTCTGTGTGACAAAGCA  
ACCAGCACCTTCACAGACCCAGTCAGTATCTTCTTGA

**FIGURE 5C**

Guinea Pig H4 DNA coding sequence (SEQ.ID.NO.:7)

ATGTTGGCAAATAACAGTACAATCGCCTTAACATCAATTAATAATTTCTTTGACATTTTAA  
ATGTCCTTTACTAGCTATTGCTATAATGTTAGGCAATGTCGTGGTCATTTTAGCTTTTATTG  
TGGACAGAAATCTTAGACATCGAAGTAATTACTTTTTCTTAACCTGGCCATTGCAGACT  
TCTTTGTGGGTGCAATTGCAATTCCTCTGTACATACCTTCCTCGCTGACTTACTGGACTT  
CTGGAAGCAAGCTTGTGTATTTTGGCTCATTACTGACTATCTTTTATGtACAGCATCTGT  
GTATAATATTGTCCTCATCAGCTACGATCGCTACCAGTCAGTCTCAAATGCCGTGTGGTA  
TAGAGCTCAGCACTCTGGCACCTGGAAAATTGCTACTCAGATGGTGGCTGTTTGGATAT  
TCTCCTTCATGACAAATGGGCCGATGATTCTGATTTTCAAGCTCTTGGCAGAATAGCACT  
ACAGAATGTGAACCTGGATTTTTAAAAAAGTGGTACTTTGCTCTCCCTACATCATTATTG  
GAATTCCTGATCCCCATCTTGTTAGTTGCTTATTTTCAAGCGCCCATATTTACTGGAGCCTG  
TGGAAGCGAGAGAAACTGAGCAGGTGCCTCAGCCACCCTGTAATCCCCTCTGACTCTTC  
CAGCAGTGACCACGGACACTCCTGCAGACAGGACCCCGATTCAAGGGCGACTCTGCCA  
GCACGGAAAGAAACAACCTGCCTCTCTTGGTTCAGACAAGTCACGGAGAAAGAGCAGTC  
TCTTGTTTTCCATAAGAGCCTACAAGAACAGCAATGTGATCGCTTCCAAAATGGGCTTC  
CTCTCCCCTCAGATTCCTGGCTCTTCAGCAAAGGGAACATATCGAACTTTTTCAGAGC  
CAGGAAATTAGCCAAGTCACTGGCCATACTCTTAGCAGCTTTTGGCATTGCTGGGCTCC  
ATATTCCTGACTACAGTTATCTACTCATTTTTTCTGAAAGGAACTTGACTAAATCAAC  
CTGGTACCATACTGCCTTTTGGCTCCAGTGGTTCAATTCCTTTGTTAATCCCTTTTGTAT  
CCATTGTGTCAAAACGTTTTTCAGAAAGGCTTTCCTGAAAATACTTCCTGTGAGAAGGCA  
ATCCACGCCACCACACAACCGCTCAATATCCACTTGA

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**FIGURE 6A**

Mouse histamine H4 receptor protein sequence (SEQ.IN.NO.:8)

MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNAVILAFVVDNRNLRHRSNYFFLNLAISDFL  
VGLISIPLYIPHVLFNWNFGSGICMFWLITDYLLCTASVYNIVLISYDRYQSVSNAVSYRAQH  
TGIMKIVAQMVA VWILAFVNGPMLASDSWKNSTNTKDCEPGFVTEWYILTITMLLEFLLP  
VISVAYFNVQIYWSLWKRRALSRCPSHAGFSTTSSSASGHLHRAGVACRTSNPGLKESAASR  
HSESPRRKSSILVSLRTHMNSSITAFKVGSFWRSESAALRQREYAELLRGRKLARSLAILLSA  
FAICWAPYCLFTIVLSTYPRTERPKSVWYSIAFWLQWFNSFVNPFYPLCHRRFQKAFWKIL  
CVTKQPALSQNQSVSS



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**FIGURE 6B**

Rat histamine H4 receptor protein sequence (SEQ.ID.NO.:9)

MSESNGTDVLPLTAQVPLAFLMSLLAFITIGNAVVILAFVADRNLRRHSNYFFLNLAISDFF  
VGVISIPLYIPHTLFNWNFGSGICMFWLITDYLLCTASVYSIVLISYDRYQSVSNAVRYRAQH  
TGILKIVAQMVAVWILAFVNGPMILASDSWKNSTNTEECEPGFVTEWYILAITAFLEFLLPV  
SLVVYFSVQIYWSLWKRGSLSRCPHAGFIATSSRGTGHSRRTGLACRTSLPGLKEPAASLH  
SESPRGKSSLLVSLRTHMSGSHAFKVGSESPVLHQREHVLLRGRKLARSLAVLLSAF  
AICWAPYCLFTIVLSTYRRGERPKSIWYSIAFWLQWFNSLINPFLYPLCHRRFQKAFWKILCV  
TKQPAPSQTQSVSS

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**FIGURE 6C**

Guinea Pig histamine H4 receptor protein sequence (389 amino acids)  
(SEQ.ID.NO.:10)

MLANNSTIALTSIKISLTFLMSLLAIAIMLGNVVVILAFIVDRNLRHRSNYFFLNLAIDFFVG  
AIAIPLYIPSSLTYWTSGKQACVFWLITDYLLCTASVYNIVLISYDRYQSVSNVWYRAQHS  
GTWKIATQMVAVWIFSFMTNGPMILISDSWQNSTTECEPGFLKKWYFALPTSLLLEFLIPILLV  
AYFSAHIYWSLWKREKLSRCLSHPVLPDSSSSSDHGHSCRQDPDSRATLPARKETTASLGSD  
KSRRKSSLLFSIRAYKNSNVIASKMGFLSHSDSLALQQREHIELFRARKLAKSLAILLAFAIC  
WAPYSLTTVIYSFFPERNLTKSTWYHTAFWLQWFNSFVNPFLYPLCHKRFQKAFLKILPVRR  
QSTPPHNRSIST

**Figure 7A**  
**Nucleotide Sequence Comparison of Human (SEQ ID NO:1), Guinea Pig (SEQ ID NO:7), Mouse (SEQ ID NO:5), and Rat H4 (SEQ ID NO:6)**

Human: ATGCCGAGATCTAATAGCAACAATCAATTTATCACTAAGCACTGGTGTTACTTTAGCATTTTATGTCCTTAGTAGCTTTTGCTATTAAGCTAGGAAATGCTTTGGTCATTTTAGCTTTT 120  
Guinea Pig: ATGTTGGCAATAACAGTACAAATCGCCTTAACA --- TCAATTAATAATTTCTTGACATTTTAAATGCTCTTATAGCTATGCTATATATGTTAGGCAATGTCGTGGTCATTTTAGCTTTT 117  
Mouse: ATGTCGGAGTCTAACAGTACTGGCATCTTGCCACAGCTGTCAGGTCCCTTGCCATTTTAAATGCTCTTATGTCCTTGTATATGTTAGGCAATGCTGTGGTCATCTTAGCTTTT 120  
Rat: ATGTCGGAGTCTAACGGCACTGACGCTTGCCCACTGACTGCTCAAGTCCCTTGCCATTTTAAATGTCCTGCTGCTTTTGTCTATTAACGATAGGCAATGCTGTGGTCATTTTAGCTTTT 120  
Human: GTGGTGGACAAAAACCTTAGACATCGAAGTAGTTATTTTCTTAACCTTGGCCACTCTGACTTCTTTGTGGGTGATCTCCATTCCTTTGTATACATCCCTCACACGCTGTTTCAATGG 240  
Guinea Pig: ATTGTGGACAGAAATCTTAGACATCGAAGTAATTAATTTTCTTAACCTTGGCCACTGAGACTTCTTTGTGGGTGCAATGCAATTCCTCTGTATACATCTTCTCGCTGACTTACTGG 237  
Mouse: GTGGTGGACAGAAACCTTAGACATCGAAGTAATTAATTTTCTTAATTTGGCTATTTCTGACTTCTCTGTGGGTGATTTCCATTCCTCTGTATACATCCCTCACACGCTGTTGTTAACTGG 240  
Rat: GTAGCAGACAGAAACCTTAGACATCGAAGTAATTAATTTTCTTAATTTGGCTATTTCTGACTTCTCTGTGGGTGATCTCCATTCCTCTGTATACATCCCTCACACGCTGTTTAACTGG 240  
Human: GATTTTGGAAAGGAAATCTGTGTATTTTGGCTCACTGACTATCTGTTATGTATACAGCATCTGTATATAACATTTGTCTCATCAGCTATGATCGATACCTGTGCTCAGTCTCAAAATGCTGTG 360  
Guinea Pig: ACTTCTGGAAAGCAAGCTGTGTATTTTGGCTCATTTACTGACTATCTTTTATGLACAGCATCTGTGTATATAATTTGTCTCATCAGCTACGATCGCTACCAAGTCAGTCTCAAAATGCCGTG 357  
Mouse: AATTTTGGAAAGTGGAAATCTGCAATGTTTGGCTCATTTACTGACTATCTTTTGTGGACCGCATCTGTCTCAATATTTGTCTCATATAGCTACGATACCGATACCGATACCGATACCGTGTG 360  
Rat: AATTTTGGAAAGTGGAAATCTGCAATGTTTGGCTCATTTACTGACTATCTTTTGTGGACAGCATCCGTCTACAGTATTTGTCTCTATTAGCTACGATCGATACCGATACCGATACCGTGTG 360  
Human: TCTTATAGAACTCAACATACTGGGGTCTTGAAGATTTGTTACTGTGATGGTGGCCGTTTGGGTGCTGCGCTTCTTAGTGAATGGGCCAATGATTTCTAGTTTTCAGAGTCTTGGGAAGGATGAA 480  
Guinea Pig: TCTTATAGAGCTCAGACTCTGGCACCTTGGAAATTTGTTACTCAGATGGTGGCTGTTTGGATATCTCTTCATGACAAATGGCCGATGATTTGATTTTCAGACTCTTGGCAGAAATAGC 477  
Mouse: TCTTATAGGGCTCAACACACTGGCATCAAGAATTTGTTGCTCAAAATGGTGGTGTGGTGGTACTGGCTTCTTGGTAAATGGCCCGATGATTTCTGGCTTCAGATTTCTTGGGAAGAACAGC 480  
Rat: CGTTATAGAGCACACACTGGCATCTGAAATTTGTTGCTCAAAATGGTGGTGTGGTGGTCAATGGCCCAATGATTTCTGGCTTCGAGATTTCTTGGGAAGAACAGC 480  
Human: GGT --- AGT --- GAATGTGAACCTGGATTTTTCGGAATGGTACATCTTGGCCATCACATCTTGGAAATTCGTGATCCCAATCTTAGTCGCTTATTTCAACATGAATATTAT 594  
Guinea Pig: ACT --- ACA --- GAATGTGAACCTGGATTTTAAATAAGTGGTACCTTGTCTCCCTACATCATATTTGGAATTCCTGATCCCAATCTTGTATGTTTTCAGCGGCCCATATTTTAC 591  
Mouse: ACGAACACAAAGGACTGTGAGCTGTGTTTACAGAGTGTACATCCTCACCAATTACAATGCTCTTGGAAATTCCTGCTTCTGTCATCTCTGTGGCTTATTTTCAATGTACAGATTTAC 600  
Rat: ACCAACACAGAGGAGTGCAGGCTTGTGTTTACTGAGTGTGTACATCTCGCCATTACAGCATTTCTTGGAAATTCCTGCTCCCTGCTCTCTTGTGGTGTCTATTTTCAGTGTACAGATTTAC 600  
Human: TGGAGCTGTGGAAAGCGTGATCATCTCAGTAGGTGCCAAAGCCATCCTGTGACTG --- ACTGTGTCTCTTCCACATCTGTGGACACTATTCAGAGGTAGACTATCTTCAAGGAGATCT 711  
Guinea Pig: TGGAGCTGTGGAAAGCGAGAGAACTGAGCAGGTGCCCTCAGCCACCCCTGTACTCCCTCTGACTCTTCAGCAGTGACCAAGGACACTCCTCGACAGACAGGACCCCGATTCAGAGGGCGACT 711  
Mouse: TGGAGCTGTGGAAAGCGTAGGCTCTCAGTAGTGGCCCTAGCCATGCTGGATTG --- TCCACTACCTCTTCCAGTGTCTCAGGACACTTACAGAGCTGGGGTGGCTTGCAGGACAACT 717  
Rat: TGGAGCTGTGGAAAGCGTGGGAGTCTCAGTAGTGGCCCTAGCCACGCTGGATTG --- ATCGTACCTCTTCCAGGGGCACTGGACACTCAGCGCAACTGGGGTGGCTTGTAGGACAACT 717  
Human: CTTTCTGCATCGACAGAAGTTCCTGCTATCTTTCATTTCAGAGAGACAGAGAGAAAGTAGTGTCTCATGTTTTCCTCAAGAACCAAGATGAATAGCAATACAATTTGCTTCCAAATGGGT 831  
Guinea Pig: CTGCCAGCAGGAAAGAAACAATCTGCTCTCTTGGTTTCAGACAAAGTCAAGGAGAGAGCAGTCTCTTGTGTTTCCATTAAGAGCTCAAGAACAGCAATGTGATCGCTTCCAAATGGGC 831  
Mouse: AATCTGGATTGAAGGAATCAGCTGCATCTGTCATCAGAAAGTCTCGAAGAAAGAGCAGCATCTGTGTCTTAAAGGAACTCATGAACAGCAGTATCAGCTGCTTCAAAAGTGGT 837  
Rat: CTTCTGGATTAAAGGAACCGCCGATCCCTTCATTTCAGAAAGTCCACAGGAAAGAGCAGTCTCTCTGGTGTCTTAAAGGACTCATAGCGGTAGTATCATCGCTTCAAAAGTGGGT 837  
Human: TCCTTCTCCCAATCAGATTCTGTAGCTTTCACCAAGGGAAACATGTTGAACTGCTTAGAGCCAGGAGATTAGCCAACTCATCTGGGCCATTTCTTAGGGGTTTTTGTGCTTTGCTGGGCT 951  
Guinea Pig: TTCCTCTCCCACTCAGATTCTCTGGCTCTTCAGAAAGGGAAACATATCGAATCTTTCAGAGCCAGGAAATTAGCCAACTCAGTGGCCATCTCTTAGCAGCTTTTGTGCAATTTGTCTGGGT 951  
Mouse: TCCTTCTGGGATCGGAAAGTGCAGCGCTTCGCCAAAGGGAGTACGACAGTCTCTCAGAGCGAGGAAGCTAGCAGGTCTCTGAGCCATCTCTTCTGAGCGCTTTTGTGCCATTTGTCTGGGT 957  
Rat: TCCTTCTGCCGATCAGAAAGCCCGAGTGTCTTCCAGAGAGAGACAGTGGAGCTTCTCAGAGCGAGGAAGCTAGCAGGTCTCTCTGAGTGTCTTCTGCTTGTGCTGGGCT 957

## Figure 7B

Human: CCATATTCCTCTGTTCACAATGTCCTTTCAATTTTATTCTCTCAGCAACAGGTCCTAAATCAGTTTGGTATAGAATTGCATTTTGGCTTCAGTGGTTCAATTCCTTTGTCAATCCTCTCTTTG 1071  
Guinea Pig: CCATATTCCTGACTACAGTTATCTACTCAATTTTCTCTGAAAGGAACCTGACTAAATCAACCTGGTACCATACCTGCTTTTGGCTCCAGTGGTTCAATTCCTTTGTTAAATCCCCTTTTG 1071  
Mouse: CCATACCTGCTGTTTCACAATGTCCTTTCAACTTACCCAGAAACGGAAACGCCCAATCGGTGGTACAGCATTTGCTTCTGGCTGCAATGGTTCAATTCGTTGTTAAATCCCCTTTCTG 1077  
Rat: CCGTATGCTGTTTCACAATGTCCTTTCAACTTATCGCAGAGGGAGCGCCCCCAATCGAATTTGGTACAGCATAGCCTTTTGGCTACAGTGGTTCAATTCACATTATTAATCCCCTTTCTA 1077  
  
Human: TATCCATTGTGTCACAAGGCTTTCAAAAGGCTTTCTTGAAATAATTTTGTATAAAAAGCAACCTCTACCAACACAGTCGGTCAGTATCTTCTTAA 1173  
Guinea Pig: TATCCATTGTGTCACAAGGCTTTTTCAGAAAGGCTTTCTGAAATACTTCTCTGTGAGAGGCAATCCACGCCACCA --- CACAACCGCTCAATATCCACTTGA 1170  
Mouse: TACCCCTTGTGTACAGGCGTTTCCAGAGGCTTTCTGGAAGATACTTTGTGTGACAAAGCAACCCAGCGCTGTCA --- CAGAACCAGTCAGTATCTTCTTGA 1176  
Rat: TACCCCTTGTGTGCCACAGAGGTTTCCAGAGGCTTTCTGGAAGATACTCTGTGTGTGACAAAGCAACCCAGCACCTTCA --- CAGACCCAGTCAGTATCTTCTTGA 1176

# Figure 8

## Amino Acid sequence Comparison of Human (SEQ ID NO:2), Guinea Pig (SEQ ID NO:10), Mouse (SEQ ID NO:8) and Rat H4 (SEQ ID NO:9)

Human:	MPDTNSTINLSLSTRVTLAFEMSLVAFAIMLGNALVILAFVVDKLNLRHRSYFFFLNLAISDFFGVISIPIYIPHTLFEWDFGKEICVFWLTDTYLLCTA	100
Guinea Pig:	MLANNSTIALT-SIKISLTFILMSLLAIAIMLGNVVVILAFIVDRNLNRHRSNYFFFLNLAIADFFVGAIAIPLIYIPSSLTWTSGKQACVFWLITDYLLCTA	99
Mouse:	MSESNSTGILPPAAQVPLAFLMSSFAFAIMVGNVAVVILAFVVDNRNLNRHRSNYFFFLNLAISDFLVGLISIPLIYIPHLFNWNGFGSGICMFWLITDYLLCTA	100
Rat:	MSESNSTGTDVPLPLTAQVPLAFLMSSLLAFATITIGNAVVILAFVADNRNLNRHRSNYFFFLNLAISDFFGVISIPIYIPHTLFNWNGFGSGICMFWLITDYLLCTA	100
Consensus:	M . . N . T . L . : : : : L . F . MSL . A . AIM . GN . : VILAF . : D . NLRHRS . YFFLNLA . I . DF . VG . I . : IPLYIP . : L . W . G : C : FWL . TDYLLCTA	
	TM1	
	TM2	
	TM3	
Human:	SVYNIVLISYDRLSVSNVAVSYRTQHTGVLKIVTLMVAVWVILAFVNGPMILVSESWKDEG-S-ECEPGFFSEWYIIAITSFLEFVIPVILVAYFNMNIY	198
Guinea Pig:	SVYNIVLISYDRLSVSNVAVSYRAQHSQGTWKIATQMVAWVIFSEMTNGPMILISDSWQNST-T-ECEPGFLKKWYFALPTLSLEFLIPILVAYFSAHIY	197
Mouse:	SVYNIVLISYDRLSVSNVAVSYRAQHTGIMKIVAQMVAVWILAFVNGPMILASDSWKNSNTKDCEPGFVTEWYITITMLLEFLLPVISVAYFNVQIY	200
Rat:	SVYSIVLISYDRLSVSNVAVSYRAQHTGILKIVAQMVAVWILAFVNGPMILASDSWKNSNTKEECPGFTEWYIIAITSFLEFLLPVSLVVFVSVQIY	200
Consensus:	SVYNIVLISYDRLSVSNVAV YR:QH:G. KI. . . MVAVW. : : F. . NGPMIL. S:SW. : . . : CEPGF. . . WY. : . . T. : LEF. : P. : . VAYF. : . IY	
	TM4	
	TM5	
Human:	WSLWKRDHLSRCQSHPGI-TAVSSNICGHSFRGLSSRRSLASSTEVPAFHSERQRRKSSLSMFSSRTKMNSNTIASKMGFSQSQSDSVALHQREHVELLR	297
Guinea Pig:	WSLWKREKLSRCLSHPVLPSSDSSDHGHSCHQDPDSRATLPARKETASLGSDKRRKSSILFSIRAYKNSNVIAASKMGFLSHSDSLAQOREHIELER	297
Mouse:	WSLWKRRALSRCPSHAGF-STTSSASAGHLHAGVACRTSNPGLKESAAASHSESPRRKSSILVSLRTHMNSSITAFKVGFSFWRSESAALRQREYAEELLR	299
Rat:	WSLWKRGSLSRCPSHAGF-IATSSRGTHSRRTGLACRTSLPGLKEPAASLHSESPRGKSSLLVSLRTHMSSGSIIFAFKVGSCFRCSESPVLHQIEHVELLR	299
Consensus:	WSLWKR. : LSRC SH. : : . SS. GH. R . : R : : : . . . E. . AS. S : : R. KSSL. : S R : . . . . . A. K. G : : : S. S : : L. Q E. : EL. R	
Human:	ARLAKSLAILLGVFVAVCWAPYSLFTIVLSFYSSATGPKSVWYRIAFWLQWNSFVNPLLYPLCHKRFQKAFKILKIFCIKKQPLPSQHSRSVSS	390
Guinea Pig:	ARKLAKSLAILLAFAICWAPYSLTIVISYFFPERNLTKSTWYHTAFWLQWNSFVNPLYPCHKRFQKAFKILPVRRQSTPP-HNRSIST	389
Mouse:	GRKLARSAILLSAFAICWAPYCLFTIVLSTYPTERTPKSVWYSIAFWLQWNSFVNPLYPCHRRRFQKAFKILCVTKQPALSQ-NQSVSS	391
Rat:	GRKLARSAILLSAFAICWAPYCLFTIVLSTYPTRRGERPKSIWYSIAFWLQWNSLINFPLYPLCHRRRFQKAFKILCVTKQAPPSQ-TQSVSS	391
Consensus:	.R:LA:SLA:LL.:FA:CWAPY:L T.: S : : . . . KS.WY.:AFWLQWNS.:NP:LYPLCH:RFQKAF.KI: : : Q : : : RS:S:	
	TM6	
	TM7	